

IN THE SPECIFICATION

Please substitute the following paragraph in the specification as indicated:

Please replace the first paragraph on Page 1 of the specification as originally filed with the following:

A1
This application is a continuation of Serial No. 09/310,295 filed May 12, 1999, now U.S. Patent No. [] 6,360,038, which is incorporated herein by reference.

IN THE CLAIMS

Please amend the claims as follows:

- A2*
1. (Amended) An optical device comprising:
- an input fiber having a cladding and a core for receiving a light input;
 - a target fiber having a cladding and a core;
 - the cladding of the input fiber and the cladding of the target fiber being close together to define a coupling region in which light is coupled from the cladding of the input fiber to the cladding of the target fiber;
 - a first perturbation for wavelength-selective coupling of light from the core of the input fiber into the cladding of the input fiber; and
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a second perturbation for wavelength selective coupling of light from the cladding of the target fiber into the core of the target fiber,

wherein at least one of the first and second perturbations is in the cladding and the first perturbation and the second perturbation do not overlap.

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16. (Amended) An optical device comprising:

a first fiber having a cladding and a core for receiving a light input;

a second fiber having a cladding and a core, the cladding of the first fiber and the cladding of the second fiber being close together to define a coupling region in which light is coupled from the cladding of the first fiber to the cladding of the second fiber;

a first perturbation for wavelength-selective coupling of light from the core of the first fiber into the cladding of the first fiber;

a second perturbation for wavelength-selective coupling of light from the cladding of the second fiber into the core of the second fiber;

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a third fiber having a cladding and a core, the cladding of the third fiber and the cladding of the first fiber being close together to define a coupling region in which light is coupled from the cladding of the third fiber to the cladding of the first fiber;

a third perturbation in the third fiber for wavelength-selective coupling of light from the core of the third fiber into the cladding of the third fiber; and

15 a fourth perturbation for wavelength-selective coupling of light from the cladding
of the first fiber to the core of the first fiber;



the fibers and perturbations being arranged to form an add/drop multiplexer.

17. (Amended) An optical device comprising:

a first fiber having a cladding and a core for receiving a light input and providing
an output;

a second fiber having a cladding and a core;

5 the cladding of the first fiber and the cladding of the second fiber being close
together to define a coupling region in which light is coupled from the cladding of the
first fiber to the cladding of the second fiber;

a first perturbation for wavelength-selective coupling of light from the core of the
first fiber into the cladding of the first fiber;

10 a second perturbation for wavelength-selective coupling of light from the cladding
of the second fiber into the core of the second fiber;

wherein the second fiber receives a light input and the second perturbation
provides wavelength-selective coupling from the input of the second fiber to the cladding
of the second fiber and the coupling region couples the light from the cladding of the
15 second fiber to the cladding of the first fiber; and

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a third perturbation located in the first fiber for wavelength-selective coupling of the light coupled from the cladding of the second fiber into the cladding of the first fiber into the core of the first fiber, the device thereby forming an add/drop multiplexer in which the second fiber is used to add and drop light at the desired wavelengths.

18. (Amended) An add/drop multiplexer consisting essentially of two optical fibers, each having a perturbation formed therein, the fibers positioned close together but without overlapping the perturbations of the fiber to allow coupling between the cladding of the two fibers.

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19. (New) An optical device comprising:
an input fiber having a cladding and a core for receiving a light input;
a target fiber having a cladding and a core;
the cladding of the input fiber and the cladding of the target fiber being close
5 together to define a coupling region in which light is coupled from the cladding of the input fiber to the cladding of the target fiber;
a first perturbation for wavelength-selective coupling of light from the core of the input fiber into the cladding of the input fiber; and
a second perturbation for wavelength selective coupling of light from the cladding
10 of the target fiber into the core of the target fiber,

wherein one of the first and second perturbations is in the cladding and the other of the first and second perturbations is in the core and the coupling region is between the first and second perturbations in a lengthwise direction.

20. (New) An optical device comprising:

a first fiber having a cladding and a core for receiving a light input;

a second fiber having a cladding and a core, the cladding of the first fiber and the cladding of the second fiber being close together to define a coupling region in which light is coupled from the cladding of the first fiber to the cladding of the second fiber;

a first perturbation for wavelength-selective coupling of light from the core of the first fiber in the cladding of the first fiber;

a second perturbation for wavelength-selective coupling of light from the cladding of the second fiber into the core of the second fiber;

a third fiber having a cladding a core, the cladding of the third fiber and the cladding of the first fiber being close together to define coupling region in which light is coupled from the cladding of the third fiber to the cladding of the first fiber;

a third perturbation in the third fiber for wavelength-selective coupling of light from the core of the third fiber into the cladding of the third fiber;

a fourth perturbation for wavelength-selective coupling of light from the cladding of the first fiber to the core of the first fiber;

wherein at least one but less than all of the perturbations are located in the core of the fibers and the remaining perturbations are located in the cladding of the fibers; and the fibers and perturbations being arranged to form an add/drop multiplexer.

21. (New) An optical device, comprising:

an optical fiber having a core and a cladding for receiving a light input, the core capable of transmitting light in a core mode and the cladding having a first index of refraction and capable of transmitting light in a cladding mode;

an optical waveguide having a second index of refraction less than the first index of refraction; and

wherein the cladding of the optical fiber is positioned closely to the optical waveguide forming a coupling region between the cladding of the optical fiber and the optical waveguide such that the cladding mode transmitted in the cladding of the optical fiber excites a mode in the optical waveguide.

22. (New) The optical device of claim 21, the optical fiber further comprising a perturbation for wavelength-selective coupling of light transmitted in the core mode by the core of the optical fiber into the cladding mode transmitted by the cladding of the optical fiber.